EMPOWERING SCHOOL TEACHERS WITH TECHNO-PEDAGOGICAL COMPETENCIES BY ONLINE LEARNING

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Abstract

Emergence of new technological innovations has influenced every aspects of human life. Use of technological innovations in a class room is inconceivable one today. 21st century is witnessing such type of interventions of technology than it has been in the 20th century. In order to prepare the students to become the 21st century citizens they must be exposed to technology based instruction in the class room. To be able to survive and be successful in the future school environment, teachers would need to acquire additional knowledge and skills, both general and specific, Teachers play a vital role in realizing the educational goals of a dynamic society. The Role of teacher is becoming more dynamic and yet demanding for the explosion of knowledge and expansion of skills for the preparation of our learner to become global citizen.

Teacher Education for preparing professional teachers needs to adopt wholistic approaches. While transferring knowledge about content and methodology there is a need to integrate numerous skills and competencies. Due weightage should be given for the inculcation of techno-pedagogic competencies in the teacher education curriculum. The developments and changes over the last two decades require a fresh look at the teacher education. In this era of technological expansions the collaboration of technology and pedagogy leads to important skill, techno-pedagogical skills. Techno-pedagogy, or the effective blending of various technologies with pedagogy, opens up new possibilities for supporting a variety of learning situations.

Smart classrooms and smart lessons are the highlights of new generation schools. Teacher professional development is absolutely essential for handling the highly sophisticated technological gadgets in classroom effectively. Simply stated, it is inefficient to invest precious resources on information technology infrastructure without investing on teacher professional development. Technology may help teachers deliver better excellent teaching that is more learner-centered, inter-disciplinary, applicable to real-world events and processes, and adaptable to different learning styles.

Teachers working in CBSE schools majority are simply Graduates and Post Graduates having no degree in teacher training. Enhancing the level of knowledge regarding techno-pedagogical competencies and

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its applications among school teachers through online learning platforms are discussed in this paper. Generating a favorable positive attitude among school teachers towards application of various techno-pedagogical competencies without any regular training programs and with the support of online classrooms and social media supported platforms discussed here.

TECHNO PEDAGOGY

The use of technical advancements such as specialized equipment, materials, and systems for educational cause is referred to as "technology in education." The name "pedagogue" is derived from two Greek words 'pais', or 'paidos', which means "boy," and 'Agogos', which means "guide." As a result, pedagogic emphasizes the schience of teaching. Techno Pedagogy is the effective integration of technology and pedagogy. Techno pedagogy is a critical aspect in determining whether or not an instructional media product will be effective. Techno pedagogy is the integration of instructional approaches into the learning environment. To enhance the ease and clarity of information transmission, it is necessary to be aware of the mediated learning environment.

TEACHER AS A TECHNO PEDAGOGUE

A Techno-Pedagogue is a specialist in electronic pedagogy methods and theory who focuses on the user of technology in learning and teaching. A techno pedagogue is not a system or network engineer; it is the function of a technical person. A techno pedagogue can supervise the design, development, and even deployment of online environments, interfaces, and tools that aid learning in a variety of activities. The techno pedagogue talks and collaborates with ease with information architects and programmers, as well as professionals and administrators.

Role of teacher as a techno pedagogue is challenging one. Students prefer smart classrooms over regular classes in this situation because they feel it makes learning more exciting and entertaining. Subjects that students find difficult or dull can be made more exciting via virtual classes, videos, or tablet use. Teachers should be able to communicate concepts through the cutting-edge technology. Using technology in the classroom would help prepare them for the digital future and global citizenship. To be a techno pedagogue, teachers have to undergo so many professional training programs. Lots of govt. organizations and non-government organizations provides online courses for the development techno pedagogical competencies. In the use of techno pedagogy teacher has to play a prominent role by developing, transmitting and evaluating the whole classroom environment.

1. Developing or collecting digital lessons by surfing through the Internet.
2. Managing student data with the support of suitable software.
3. Evaluating the suitability of materials for achieving instructional objectives.
4. Scheduling the learning programmes in advance without wasting time.

5. Developing suitable evaluation techniques for checking the projects and assignments of learners.
6. Using online support for professional development and to attend workshops on the use of techno-pedagogical gadgets.
7. Developing assignments & projects to enrich the thinking level of learners.

TECHNO PEDAGOGIC SKILLS & COMPETENCIES

Techno pedagogical skills and competencies of a teacher makes the teaching learning process pleasurable and effective one. Use of techno pedagogy reduces the pressure in the process of education not only for the teacher but for the learner too. It develops such an inner motivation, that makes the teachers to present the content with the support of technology and the learner stands always interested to receive new information. The different steps involved in the development of techno pedagogic skills are listed here;

- Analyzing the potentials and limits of available modern technologies for learning.
- Accessing or collecting the necessary technologies for the development and transmission of content.
- Generating ideas on the use of tools and applications in the classroom.
- Attaining mastery in the use of technologies and clearance of technical problems.
- Designing our own materials according to the needs of curriculum.
- Developing learning materials and evaluation tools for intersection within and outside the classroom.
- Taking trials before presenting in front of the audience.
- Reconstruct by rectifying all the mistakes.

BENEFITS OF TECHNO PEDAGOGICAL COMPETENCIES

Technology is one of the most valuable tools that we have available at our finger tips every day. The combination of technology with pedagogy, will contribute much more than the traditional ways of teaching. The use of techno pedagogy reduces the work load of teachers and strives to achieve effective educational goals. The benefits of techno pedagogical competencies are listed here,

- Helps to achieve instructional objectives effectively.
- Supports learner oriented approaches in learning.
- Makes classroom environment motivating one.
- Remedial for slow learners.
- Improves the efficiency of teaching and learning.
- Solves the problem of mass education.

- Helps to attain the aim of education for all.
- Provides lifelong education for all.
- Makes the learning future oriented.
- Digitalizes the text books and classroom.
- Helps to attain higher order thinking skills.
- It Enhance linguistic abilities
- It Improves the quality and level of study materials
- It Designs multi-grade instruction
- Helps to Plan specific pedagogy for differentially abled learners.
- Support in Distance Education through e-learning
- Stimulate Self Learning ability
- Enhance enrolment and self-examination process
- Assist in research and innovative activities
- Reinforce for cognitive learning
- Helps for Development of life skills
- Develops aesthetic sensibility

Platforms for the Development of Techno-Pedagogical Competencies

Development of techno pedagogical competencies from the regular classroom is not an easy task for the teacher. These type of problems are faced by teachers who entered into profession without qualifying any training programs. Especially in CBSE schools, teachers joined at the end of nineteen century, not able to handle modern technical gadgets. Authorities are not providing any training programs for these category of teachers. 21st century witnessing such a tremendous change in these aspects, lots of digital resources are available in formal and informal way to enhance awareness and to develop skills in these aspects. If teachers are willing they can develop their technical skills through watching tutorial videos, reading concepts from blogs and joining online courses.

Codeacademy

Python, Ruby, Java, JavaScript, jQuery, React.js, AngularJS, HTML, Sass, and CSS are among the Twelve programming and markup languages covered by Codeacademy. The fundamental classes are all free, so if the user is a self-starter, they can be enough to get you up to speed on coding.

Dash General Assembly

Although General Assembly is a for-profit educational institution, it also offers a free course that claims

to teach students the fundamentals of web programming. The Dash software is designed to teach HTML, CSS, and JavaScript. One may learn at his own speed because the curriculum is free and entirely online.T he course offers lessons and hands-on projects that one can do in his browser.

EdX

EdX is a massive open online course (MOOC) platform that hosts university-level courses created by institutions, nonprofits, and businesses. Users may access these programmes for free, which include courses from colleges such as MIT and Harvard. Short videos, interactive learning exercises, tutorial videos, online textbooks, and a forum for students to engage with one another, ask questions, and contact teaching assistants are all included in the courses. Participants will get a certificate at the completion of the course.

Harvard Online Learning

Course materials, seminars, activities, and other educational resources are all available for free online at Harvard. The purpose is to provide "productive, accessible channels for learners who want to study but don't have the financial means to attend Harvard." EdX, GetSmarter, HarvardX, Harvard Business School (HBX), Harvard Extension School, and Harvard Medical School are among the online learning content providers that provide courses (HMX). There are courses available on practically every IT area allowing the learner to receive a Harvard education without the cost of tuition.

Khan Academy

Khan Academy was founded in 2006 as a non-profit educational organisation with the objective of providing free online education to students. Lessons are delivered via YouTube videos, with supplementary exercises for educators and students available online. The majority of the courses have been translated into many languages, and there are almost 20,000 subtitle translations accessible. While it may not be a formal degree, it is a simple approach to gain new abilities as your job progresses.

MIT OpenCourseWare

Through MIT OpenCourseWare, MIT University began publishing all undergraduate and graduate-level course material online for free in 2001. It was the first large university to provide its coursework accessible to the public, and more than 250 colleges and universities have since followed suit. MIT added entire video lectures to over 100 courses in 2018, which visitors may watch online or download to watch later.

Udemy

Professional people who need to fit education into their hectic work schedules are the target audience

for Udemy. Some Udemy courses are free, while others charge a fee, depending on the course and teacher. There are few paid courses for training skill enhancement.

SWAYAM

With the help of Microsoft, the Ministry of Human Resource Development (MHRD) and the All India Council for Technical Education (AICTE) have developed the SWAYAM platform, which will eventually be capable of hosting 2000 courses and 80000 hours of learning, covering school, under-graduate, post-graduate, engineering, law, and other professional courses. The University Grants Commission (UGC) published Regulations, 2016 addressing 'Credit Framework for Online Learning Courses through SWAYAM' in a Gazette Notification dated July 19, 2016. SWAYAM was created using a four-quadrant approach: (1) video lecture, (2) specifically prepared reading material that can be downloaded/printed, (3) self-assessment exams via tests and quizzes, and (4) an online discussion forum for resolving problems. SWAYAM is an Indian-developed IT platform for hosting Massive Open Online Courses (MOOCs) (MOOCs). Making MOOCs as parallel to normal school instruction might overcome social, geographical, and political constraints in education.

Coursera

Every course on Coursera is delivered by top teachers from leading colleges and organizations across the world, so that one can learn something new whenever and wherever they choose. Visitors may access on-demand video lectures, homework tasks, and community discussion forums through hundreds of free courses. Paid courses include more tests and assignments, as well as a shareable Course Certificate at the end.

Dominicanca Online

The professional development section (DominicanCAonline) of Dominican University of California provides online Certificate Programs that allow educators to obtain certifications in three areas that are vital today: Teacher Leadership, Technology Integration, and Blended Learning. Each programme is made up of 15 semester credit/units that may be completed in four to sixteen months. User will earn not just credits/units for your job, but also a certificate acknowledging his achievement.

Bloc

Bloc is a more intensive choice for persons who wish to learn web programming rapidly. This highly planned curriculum runs for 25 hours each week over several months, rather than brief courses or lectures. Bloc.io isn't cheap, with tuition starting at $4,250, but it is an excellent alternative for people who are ready to commit to a career transition.

Professional Learning Board

Professional Learning Board, which was founded by Ellen Paxton, a National Board Certified Teacher, draws on her expertise in K-12 programme and school development, adult learning theory, instructional design models, individualised education strategies, e-learning, professional development planning, training, and trends. The PLB team of professionals provides teachers with research-based, relevant, effective, courteous, cost-effective, and timely professional development. PLB continuously reviews and adapts methods in accordance with effective teaching techniques, resulting in improved goods and services. Listening to, collaborating with, and learning from teachers drives decisions and changes. The basis of PLB's fundamental services is to apply experience in instructional methodologies and integrate state-of-the-art learning technologies to build educational programmes and courses that result in enhanced knowledge and performance for students and teachers.

CONCLUSION

Teachers, like other professionals, must keep up with new information and technology. Despite this, many people report unhappiness with the professional development chances provided by schools, claiming that the most successful development programmes they've seen were self-initiated. Enhancing Professional Development for Teachers investigates how online professional development has had a substantial impact on the professional life of an increasing number of teachers. A growing number of educators believe that online teacher professional development (OTPD) may improve and even revolutionise teachers' performance in the classroom and throughout their careers. They also admit that it presents numerous difficult problems about pricing, fairness, technological access, material quality, and other factors. Teachers should be active participants in the conception and implementation of any new technologies that promote professional development, according to Enhancing Professional Development for Teachers. Teachers can also take use of social media courses. Empowering teachers with cutting-edge technological pedagogical skills is critical for the development of global citizens.

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